

Abstract of the Disclosure

One embodiment of the present invention is an apparatus to provide a measure of disk drive head velocity in a disk drive wherein movement is produced by a disk drive motion mechanism that includes a coil, which apparatus includes: (a) a controller that outputs one or more digital signals that are applied as input to a first component, and in response, the first component outputs a reference voltage; (b) a second component, responsive to voltage output across the coil and the reference voltage, outputs a measure of a difference between the coil voltage and the reference voltage; and (c) a third component, responsive to the measure of the difference, outputs a first value if the coil voltage is greater than the reference voltage and a second value if the coil voltage is less than the reference voltage, which third component output is applied as input to the controller; wherein the controller executes a search algorithm that varies the one or more digital signals while observing changes in the third component output to provide a digital estimate of the coil voltage, which estimate provides a measure of the disk drive head velocity.